

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: S. ANNA JIANG Examiner #: 78211 Date: 6/24/03
Art Unit: 1617 Phone Number 305-1008 Serial Number: 09/944,163
Mail Box and Bldg/Room Location: 3E-17 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: treaty CMV infection

Inventors (please provide full names): Schall Cytomegalovirus

Earliest Priority Filing Date: 8/30/2000

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Paula,
Please search this
structure (attached)
(NO hurry, not rush)
can be sometime
next week)
Thanks!
elected
and species name
octoclothepein
Anna

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	Type of Search	Vendors and cost where applicable
Searcher: <u>S. Jiang</u>	NA Sequence (#) _____	STN _____
Searcher Phone #: <u>305 44114</u>	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr. Link _____
Date Completed: <u>7/3/03</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 98114

TO: Shaojia A Jiang
Location: CM1/3E17/2B19
Art Unit: 1617
July 3, 2003

Case Serial Number: 944163

From: P. Sheppard
Location: CM1-1E03
Phone: (703) 308-4499

sheppard@uspto.gov

Search Notes

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FILE COVERS 1907 - 3 Jul 2003 VOL 139 ISS 1

FILE LAST UPDATED: 2 Jul 2003 (20030702/ED)

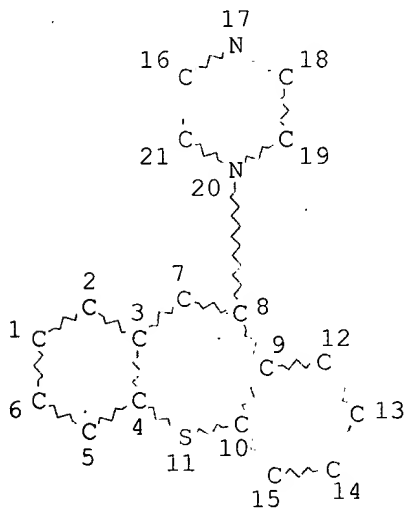
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L1 STR



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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

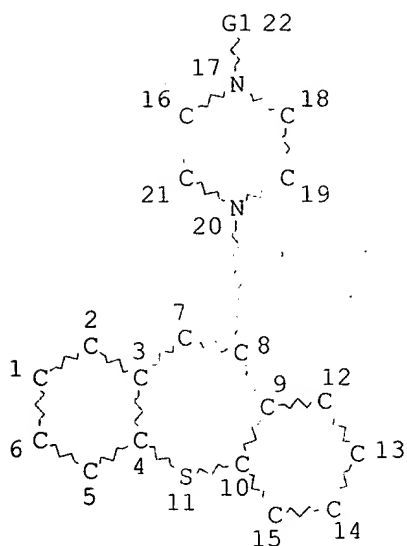
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L5 2106 SEA FILE=REGISTRY SSS FUL L1

L6 STR



VAR G1=C/CY

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 22

STEREO ATTRIBUTES: NONE

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 L8 5 SEA FILE=REGISTRY ABB=ON PLU=ON METHIOTHEPI?
 L9 13 SEA FILE=REGISTRY ABB=ON PLU=ON OCTOCLOTH?
 L10 16 SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND (L8 OR L9)
 L11 SEL PLU=ON L10 1- CHEM : 55 TERMS
 L12 1155 SEA FILE=HCAPLUS ABB=ON PLU=ON L11
 L13 1155 SEA FILE=HCAPLUS ABB=ON PLU=ON L12 OR METHIOTHEP? OR
 OCTOCLOTHEPIN?
 L14 1243 SEA FILE=REGISTRY ABB=ON PLU=ON CMV? OR CYTOMEG?
 L15 12974 SEA FILE=HCAPLUS ABB=ON PLU=ON L14 OR CMV OR CYTOMEG?
 L16 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND L15

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=> d ibib abs hitrn l16 1-2

L16 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:172238 HCAPLUS

DOCUMENT NUMBER: 136:226769

TITLE: US28 and homolog expression by
cytomegaloviruses and its interaction with
 chemokines as a basis to prevent
cytomegalovirus infection and dissemination

INVENTOR(S): Schall, Thomas J.; Penfold, Mark

PATENT ASSIGNEE(S): Chemocentryx, Inc., USA

SOURCE: PCT Int. Appl., 95 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018954	A2	20020307	WO 2001-US27392	20010830
WO 2002018954	C2	20030327		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001088682	A5	20020313	AU 2001-88682	20010830
US 2002127544	A1	20020912	US 2001-944163	20010830
PRIORITY APPLN. INFO.:			US 2000-229365P	P 20000830
			US 2000-228974P	P 20000830
			US 2000-229191P	P 20000830
			WO 2001-US27392	W 20010830

AB The invention provides methods and compns. for inhibiting **cytomegalovirus (CMV)** infection and dissemination in an animal, as well as in vitro and in vivo assay systems for identifying such compns. US28 is expressed by human **cytomegalovirus** as a viorion mol. capable of interacting with fractalkine with high affinity. Rhesus monkey **cytomegalovirus** expresses at least 5 homologs, with similar chemokine binding activity. **CMV** dissemination in infected hosts can be inhibited by administration of an inhibitor (e.g., octoclotheptin) of the US28-receptor interaction. Thus, this invention provides screening methods for agents that reduce **CMV** dissemination in an animal, and treatment of **CMV** infection.

IT **13448-22-1, Octoclotheptine**
 RL: PAC (Pharmacological activity); BIOL (Biological study)
 (US28 and homolog expression by **cytomegaloviruses** and its interaction with chemokines as a basis to prevent **cytomegalovirus** infection and dissemination)

L16 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:171670 HCAPLUS
 DOCUMENT NUMBER: 136:210544
 TITLE: Modulators of US28 chemokine receptors and their use for blocking **cytomegalovirus** dissemination
 INVENTOR(S): Schall, Thomas J.; McMaster, Brian E.; Dairaghi, Daniel J.
 PATENT ASSIGNEE(S): Chemocentryx, Inc., USA
 SOURCE: PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002017900	A2	20020307	WO 2001-US27363	20010830
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,				

US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2001087043 A5 20020313 AU 2001-87043 20010830
 US 2002127544 A1 20020912 US 2001-944163 20010830
 PRIORITY APPLN. INFO.: US 2000-228974P P 20000830
 US 2000-229191P P 20000830
 US 2000-229365P P 20000830
 WO 2001-US27363 W 20010830

OTHER SOURCE(S): MARPAT 136:210544

AB Assays, compns. and methods of treatment are provided for modulating the binding of chemokines to US28 chemokine receptors on the surface of cells. In one aspect, the present invention provides an assay for identifying a compd. useful for blocking **cytomegalovirus (CMV)** dissemination in a host by detg. whether the compd. inhibits the binding of a chemokine to US28 or a US28 fragment. Typically, the assay will be run as a competitive binding assay using a labeled chemokine. A variety of chemokines are known to bind to US28 and are useful in this aspect of the invention. Preferably, the chemokine is fractalkine and the assay is a radioligand binding assay. In another aspect, the present invention provides methods for blocking **CMV** dissemination in a host by administering to the host an effective amt. of a compd. which blocks the binding of a chemokine to US28. Preferably, the compd. is one which was identified using an assay of the present invention. In yet another aspect, the present invention provides pharmaceutical compns. for the treatment of **CMV** comprising compds. identified in the present assays.

IT 4789-68-8, Octoclothepein maleate
 13448-22-1, Octoclothepein 20229-30-5,
 Methiothepein

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
 (Biological study); USES (Uses)
 (modulators of US28 chemokine receptors and their use for blocking
cytomegalovirus dissemination)

=> select hit rn 116 1-2
 E1 THROUGH E3 ASSIGNED

=> fil reg
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STRUCTURE FILE UPDATES: 2 JUL 2003 HIGHEST RN 541497-70-5
 DICTIONARY FILE UPDATES: 2 JUL 2003 HIGHEST RN 541497-70-5

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2003

Please note that search-term pricing does apply when
 conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
 PROPERTIES for more information. See STNote 27, Searching Properties
 in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> s el-e3

1 13448-22-1/BI
(13448-22-1/RN)1 20229-30-5/BI
(20229-30-5/RN)1 4789-68-8/BI
(4789-68-8/RN)

L17 3 (13448-22-1/BI OR 20229-30-5/BI OR 4789-68-8/BI)

=> d ide can l17 1-3

L17 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2003 ACS

RN 20229-30-5 REGISTRY

CN Piperazine, 1-[10,11-dihydro-8-(methylthio)dibenzo[b,f]thiepin-10-yl]-4-methyl- (8CI, 9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Dibenzo[b,f]thiepin, piperazine deriv.

OTHER NAMES:

CN Methiotepin

CN Methiothepin

CN Methiothepine

CN Metitepine

CN Ro 8-6837

DR 101395-30-6

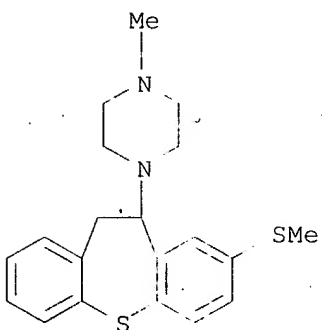
MF C20 H24 N2 S2

CI COM

LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK*, PROMT, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: WHO



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

320 REFERENCES IN FILE CA (1957 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

320 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 138:150503

REFERENCE 2: 138:130917

REFERENCE 3: 138:50031

REFERENCE 4: 138:11684
 REFERENCE 5: 138:244
 REFERENCE 6: 137:362429
 REFERENCE 7: 137:273197
 REFERENCE 8: 137:106690
 REFERENCE 9: 137:103378
 REFERENCE 10: 137:88475

L17 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2003 ACS

RN 13448-22-1 REGISTRY

CN Piperazine, 1-(8-chloro-10,11-dihydrodibenzo[b,f]thiepin-10-yl)-4-methyl-
 (8CI, 9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Dibenzo[b,f]thiepin, piperazine deriv.

OTHER NAMES:

CN (.+-.)-Clothepin

CN (.+-.)-Octoclothepin

CN Chlorothepin

CN Clorotepine

CN Clotepin

CN Clothepin

CN Octoclothepin

CN Octoclothepine

DR 41931-02-6

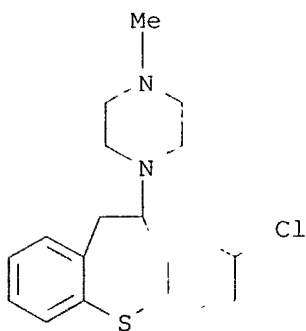
MF C19 H21 Cl N2 S

CI COM

LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,
 CAPLUS, CASREACT, DDFU, DRUGU, EMBASE, IPA, MEDLINE, PHAR, PROMT,
 RTECS*, TOXCENTER, USAN, USPATFULL

(*File contains numerically searchable property data)

Other Sources: WHO



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

100 REFERENCES IN FILE CA (1957 TO DATE)

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100 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 137:103378
 REFERENCE 2: 136:226769
 REFERENCE 3: 136:210544
 REFERENCE 4: 136:112520
 REFERENCE 5: 134:126129
 REFERENCE 6: 132:288780
 REFERENCE 7: 128:110756
 REFERENCE 8: 125:50947
 REFERENCE 9: 120:289951
 REFERENCE 10: 117:184691

L17 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2003 ACS

RN **4789-68-8** REGISTRY

CN Piperazine, 1-(8-chloro-10,11-dihydrodibenzo[b,f]thiepin-10-yl)-4-methyl-,
 (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Dibenzo[b,f]thiepin, piperazine deriv.

CN Piperazine, 1-(8-chloro-10,11-dihydrodibenzo[b,f]thiepin-10-yl)-4-methyl-,
 (Z)-2-butenedioate (1:1)

CN Piperazine, 1-(8-chloro-10,11-dihydrodibenzo[b,f]thiepin-10-yl)-4-methyl-,
 maleate (1:1) (8CI)

OTHER NAMES:

CN Octoclothebin maleate

FS STEREOSEARCH

DR 41931-03-7

MF C19 H21 Cl N2 S . C4 H4 O4

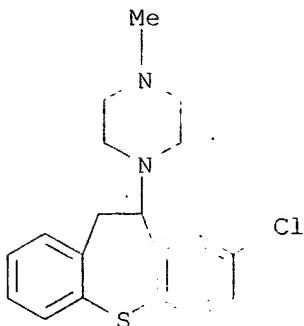
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CHEMCATS, RTECS*, TOXCENTER,
 USPATFULL

(*File contains numerically searchable property data)

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CRN 13448-22-1

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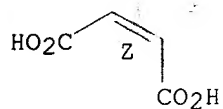


CM 2

CRN 110-16-7

CMF C4 H4 O4

Double bond geometry as shown.



17 REFERENCES IN FILE CA (1957 TO DATE)
17 REFERENCES IN FILE CAPLUS (1957 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 138:350028
REFERENCE 2: 136:210544
REFERENCE 3: 135:335153
REFERENCE 4: 90:33708
REFERENCE 5: 89:123059
REFERENCE 6: 88:182362
REFERENCE 7: 88:288
REFERENCE 8: 80:70836
REFERENCE 9: 80:59966
REFERENCE 10: 79:92282

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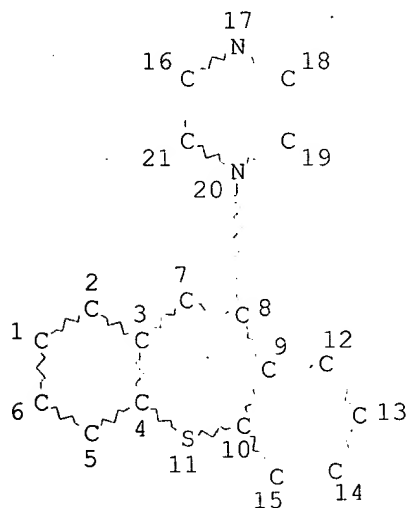
FILE COVERS 1907 - 3 Jul 2003 VOL 139 ISS 1
 FILE LAST UPDATED: 2 Jul 2003 (20030702/ED)

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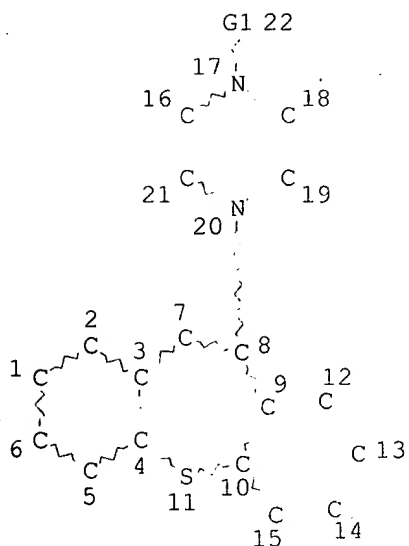
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NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
 L5 2106 SEA FILE=REGISTRY SSS FUL L1
 L6 STR



VAR G1=C/CY

NODE ATTRIBUTES:

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STEREO ATTRIBUTES: NONE

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 L8 5 SEA FILE=REGISTRY ABB=ON PLU=ON METHIOTHEPI?
 L9 13 SEA FILE=REGISTRY ABB=ON PLU=ON OCTOCLOTH?
 L10 16 SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND (L8 OR L9)
 L11 SEL PLU=ON L10 1- CHEM : 55 TERMS
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 L16 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND L15
 L18 19 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND (?VIRU? OR ?VIRAL? OR
 ?INFECT? OR ?VIRICID?)
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L19 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:303397 HCAPLUS

DOCUMENT NUMBER: 133:38567

TITLE: Human 5-hydroxytryptamine5A receptors activate
 coexpressed Gi and Go proteins in Spodoptera
 frugiperda 9 cells

AUTHOR(S): Francken, Bart J. B.; Jossion, Katty; Lijnen, Peter;
 Jurzak, Mirek; Luyten, Walter H. M. L.; Leysen, Josee
 E.

CORPORATE SOURCE: Department of Biochemical Pharmacology, Janssen Research Foundation, Beerse, Belg.

SOURCE: Molecular Pharmacology (2000), 57(5), 1034-1044
CODEN: MOPMA3; ISSN: 0026-895X

PUBLISHER: American Society for Pharmacology and Experimental Therapeutics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The ability of the human 5-hydroxytryptamine serotonin type 5A (h5-ht5A) receptor to couple to G proteins from distinct families was investigated through the simultaneous **infection** of *Spodoptera frugiperda* 9 insect cells with recombinant **baculoviruses** encoding the various proteins. Expression of G proteins was demonstrated in immunoblots. Receptor-G protein coupling was monitored by high-affinity agonist binding and agonist-induced stimulation of [35S]guanosine-5'-O-(3-thio)triphosphate binding to membranes. Receptors expressed alone displayed low-affinity agonist binding, and endogenous G proteins were only poorly stimulated on the addn. of 5-hydroxytryptamine. When receptors were coexpressed with mammalian Gi/Go proteins (G.alpha.i or G.alpha.o plus G.beta.1.gamma.2), the coupled phenotype was achieved: agonists bound with high affinity in a guanosine-5'-(.beta.,.gamma.-imido)triphosphate-sensitive manner and stimulated [35S]guanosine-5'-O-(3-thio)triphosphate binding to high levels. These effects were not obsd. on coexpression with Gz/Gs/Gq/11/16 or G12/13. Various ligands were evaluated for their agonistic, antagonistic, or inverse agonistic behavior in both receptor binding and activation assays. Although Go displayed different receptor coupling characteristics than Gi proteins, no clear coupling preference was evident. Coexpression of receptors and G.alpha.i subunits without G.beta.1.gamma.2 produced increases in both agonist affinity and max. G protein activation that were smaller than those in the presence of G.beta.1.gamma.2, suggesting that G.beta.1.gamma.2 coexpression improves receptor-G protein coupling. Similarly, coexpression of receptors with G.beta.1.gamma.2 alone resulted in an improved interaction with endogenous G proteins. The authors' results demonstrate that h5-ht5A receptors expressed in *Spodoptera frugiperda* 9 cells selectively and functionally couple to coexpressed mammalian Gi and Go proteins.

IT 20229-30-5, Methiothepin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(human 5-HT5A receptors activate coexpressed Gi and Go proteins in *Spodoptera frugiperda* 9 cells)

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1984:527571 HCAPLUS

DOCUMENT NUMBER: 101:127571

TITLE: Novel serotonin receptors in *Fasciola*.
Characterization by studies on adenylate cyclase activation and [3H]LSD binding

AUTHOR(S): McNall, Steven J.; Mansour, Tag E.

CORPORATE SOURCE: Sch. Med., Stanford Univ., Stanford, CA, 94305, USA

SOURCE: Biochemical Pharmacology (1984), 33(17), 2789-97
CODEN: BCPCA6; ISSN: 0006-2952

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 5-HT receptors coupled to adenylate cyclase (EC 4.6.1.1) in the liver fluke *F. hepatica* were characterized by adenylate cyclase activation studies and by direct binding studies using [3H]LSD as a radioligand. Inhibition of 5-HT stimulation of adenylate cyclase by a series of 5-HT antagonists revealed a potency order of LSD = 2-bromo-LSD > **methiothepin** > metergoline = cyproheptadine > methysergide >

spiroperidol. [3H]LSD binding to a cell-free fluke particle prepn. was rapid, stereospecific, and proportional to protein concn. Scatchard anal. indicated multiple binding sites which, when resolved into 2 components, gave for the high-affinity site an apparent dissocn. const. of 25 nM and a receptor concn. of 160 fmoles/mg protein. The ability of a series of compds. to compete for [3H]LSD-binding sites correlated closely with their ability to inhibit 5-HT stimulation of adenylate cyclase. [3H]LSD-binding sites were most concd. in the anterior region of the fluke which was consistent with the higher levels of 5-HT-activated adenylate cyclase found in this region. GTP and 5'-guanylyl imidophosphate, a poorly hydrolyzable GTP analog, decreased the affinity of the agonist 5-HT for the binding sites but had little effect on the affinity of the antagonist 2-bromo-LSD. Ca at concns. >300 .mu.M reduced both [3H]LSD binding and 5-HT activation of adenylate cyclase. Thus [3H]LSD can be used to label the 5-HT receptors coupled to adenylate cyclase activity. The pharmacol. specificity and other characteristics of the fluke receptors appear to differ from the properties of reported mammalian 5-HT receptors. As a result, serotonin receptors in the flukes represent sites that may be amenable to selective manipulation by new chemotherapeutic agents useful in the treatment of these parasite **infections**.

IT 20229-30-5

RL: BIOL (Biological study)

(LSD binding by liver fluke response to, serotonergic receptors in relation to)

L19 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1983:453703 HCAPLUS

DOCUMENT NUMBER: 99:53703

TITLE: Neurotropic and psychotropic agents. CLXXVIII.
8-Chloro and 8-(methylthio) derivatives of
10-piperazino-10,11-dihydrodibenzo[b,f]thiepins; new
compounds and new procedures

AUTHOR(S): Jilek, Jiri; Pomykacek, Josef; Prosek, Zdenek;
Holubek, Jiri; Svatek, Emil; Metysova, Jirina; Dlabac,
Antonin; Protiva, Miroslav

CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, 130 60/3, Czech.

SOURCE: Collection of Czechoslovak Chemical Communications
(1983), 48(3), 906-27

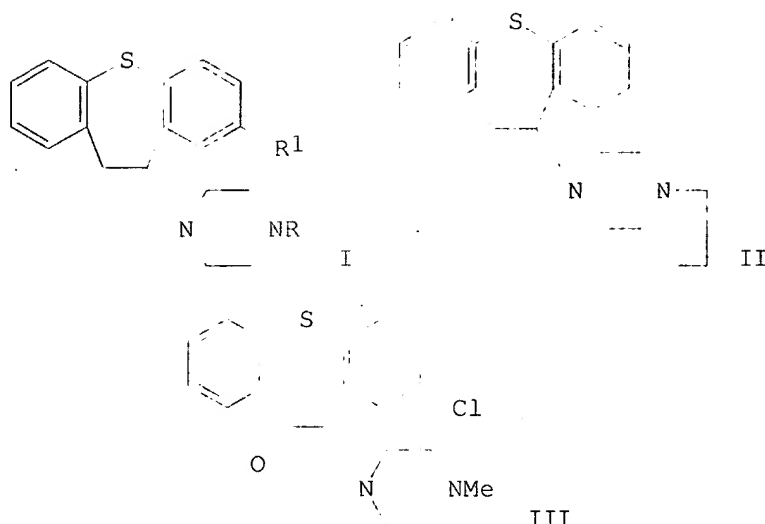
CODEN: CCCCAK; ISSN: 0366-547X

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 99:53703

GI



AB I (R = H, R1 = Cl) was converted to I [R = CH2CH2OCO(CH2)8Me, R1 = Cl], which was converted to I (R = CH2CH2OH, R1 = Cl). Reaction of I (R = H; R1 = Cl, SMe) with 1,2-butene oxide gave I [R = CH2CH(OH)Et; R1 = Cl, SMe]. Alkylation of I (R = H, R1 = Cl) by 5-bromo-2-pentanone, followed by redn. of the amino ketone formed, gave I [R = (CH2)3CHMeOH, R1 = Cl]. I [R = CH2CH2OH, R1 = Cl; R = (CH2)3OH, R1 = SMe] were converted to the chlorides and then to mandelate and benzilate esters. The preps. of II and III were described. III was reduced by NaBH4 and B2H6 to give the cis- and trans-amino alc., resp. I (R = Me, R1 = Cl) was resolved into its enantiomers, and the methanesulfonates of these were prepd. The compds. were tested for neuroleptic activity, e.g., I [R = CH2CH2OCOCH(OH)Ph, R1 = Cl] at 40 mg/kg was more effective than 10 mg/kg trihexyphenidyl in antagonizing oxotremorine-induced tremors in mice. Antimicrobial activity was also tested.

IT 13448-22-1
 RL: PROC (Process)
 (resoln. of)

L19 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1982:199732 HCAPLUS

DOCUMENT NUMBER: 96:199732

TITLE: 8-Chloro-10-piperazino-10,11-dihydrodibenzo[b,f]thiepins containing an oxygen function at C-3 and their salts.

INVENTOR(S): Protiya, Miroslav; Jilek, Jiri; Bartosova, Marie; Pomykacek, Josef

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 5 pp.
 CODEN: CZXXA9

DOCUMENT TYPE: Patent

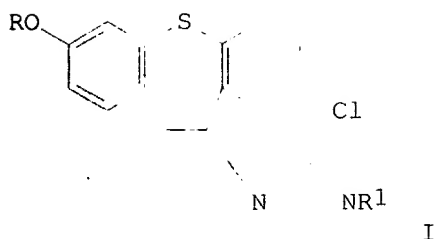
LANGUAGE: Czech

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 193370	B	19791031	CS 1977-8858	19771227
PRIORITY APPLN. INFO.:			CS 1977-8858	19771227

GI



AB The title compds. I (R = H, Me; R1 = H, Me, CHO, Ac, CO2Et) and their S-oxides were prepd. and biol. tested. Thus, refluxing a mixt. of 62 g 8,10-dichloro-3-methoxy-10,11-dihydrodibenzo[b,f]thiepin and 130 g 1-(ethoxycarbonyl)piperazine 5 h at 105-110.degree. gave 73% I (R = Me, R1 = CO2Et) which underwent alk. hydrolysis and decarboxylation to give 87% I (R = Me, R1 = H) (II). Stirring II with BBr3 in CHCl3 soln. 4 h, boiling the product in aq. EtOH and alc. NaOH gave 68% I (R = R1 = H) (III). Conversion of II to its methanesulfonate salt and oxidn. with 26% H2O2 gave 51% II S-oxide. Analogous treatment of I (R = R1 = Me) gave 91% of its S-oxide. The prepd. compds. were biol. tested as maleates which showed central depressant, adrenolytic, spasmolytic, antiarrhythmic and antibacterial activity. In addn. III had hypnotic, antihistaminic, and analgesic activity and II showed hypotensive effect. The LD50 values in mice were 8-35 mg/kg.

IT 56096-71-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of)

IT 68292-85-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L19 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1980:532441 HCAPLUS

DOCUMENT NUMBER: 93:132441

TITLE: Neurotropic and psychotropic agents. CXXXVII.
Synthesis of 3-chloro-5-(4-methylpiperazino)-6,7-dihydro-5H-dibenzo[b,g]thiopin, an eight-membered ring homolog of the neuroleptic agent **octoclothebin**

AUTHOR(S): Sindelar, Karel; Holubek, Jiri; Svatek, Emil; Protiva, Miroslav

CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, 130 00/3, Czech.

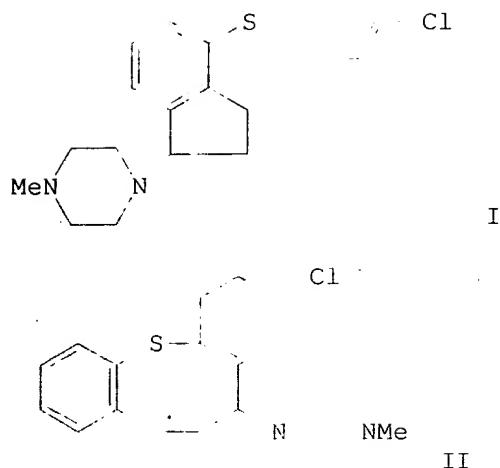
SOURCE: Collection of Czechoslovak Chemical Communications
(1980), 45(2), 491-503

CODEN: CCCCAK; ISSN: 0366-547X

DOCUMENT TYPE: Journal

LANGUAGE: English

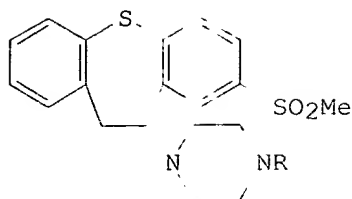
GI



AB Alkylation of $\text{CH}_2(\text{CO}_2\text{Et})_2$ with 2-[(4-ClC₆H₄)S]C₆H₄CH₂Cl followed by hydrolysis and decarboxylation gave 2-[(4-ClC₆H₄)S]C₆H₄CH₂CH₂CO₂H. The acid chloride of the latter was cyclized in low yield by treatment with AlCl₃ to 4-(4-chlorophenylthio)indanone. Three further steps led to the piperazine deriv. I. Reaction of (2-HSC₆H₄)CH₂CH₂CO₂H with 5,2-Cl(I)-C₆H₃CO₂H followed by esterification gave Et 3-[2-[[4-chloro-2-(ethoxycarbonyl)phenyl]thio]phenyl]propionate which was cyclized by a Dieckmann reaction using NaH in PhMe to give Et 3-chloro-5-hydroxy-7H-dibenzo[b,g]thiocin-6-carboxylate. Acid hydrolysis afforded 3-chloro-6,7-dihydrodibenzo[b,g]thiocin-5-one which was transformed in three steps to the title compd. II. I was devoid of central nervous system activity, II had a mild central depressant activity but not the character of a neuroleptic agent; I and II had antispasmodic activity (LD₅₀ and ED₅₀ given). Antimicrobial min. inhibitory concns. were detd. for I and II.

L19 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1980:514449 HCAPLUS
 DOCUMENT NUMBER: 93:114449
 TITLE: Neurotropic and psychotropic agents. CXL.
 10-[4-(3-Hydroxypropyl)piperazino]-8-(methylsulfonyl)-
 10,11-dihydrodibenzo[b,f]thiepin and some related
 potential metabolites of the neuroleptic agents
 oxyprothepin and methiothepin
 AUTHOR(S): Valenta, Vladimir; Dlabac, Antonin; Bartosova, Marie;
 Svatek, Emil; Protiva, Miroslav
 CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, 130 00/3, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications
 (1980), 45(2), 529-38
 CODEN: CCCCCA; ISSN: 0366-547X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

II, R = (CH₂)₃OH

III, R = H

AB Substitution reaction of 10-chloro-8-methylsulfonyl-10,11-dihydrodibenzo[b,f]thiepin (I) with 1-(3-hydroxypropyl)piperazine afforded the title compd. (II), which was transformed by selective oxidn. reactions to the sulfoxide, N-oxide and N,S-dioxide. The secondary amine III was prepd. via the N-ethoxycarbonyl deriv. and oxidized to the sulfoxide. Reaction of I with H₂N(CH₂)₂NH₂ gave 10-(2-aminoethylamino)-8-methylsulfonyl-10,11-dihydrodibenzo[b,f]thiepin which was oxidized to the corresponding sulfoxide. Most of the compds. prepd. are potential metabolites of the neuroleptic agent oxyprothepin, some of them are potential metabolites of **methiothepin**. Out of the compds. prepd. only II preserved the neuroleptic character (LD and ED given). The antimicrobial, antiarrhythmic, hypotensive, antihistamine and anticonvulsant activity were also detd.

L19 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1980:128852 HCAPLUS

DOCUMENT NUMBER: 92:128852

TITLE: Neurotropic and psychotropic agents. CXXIX.
Fluorinated neuroleptics of the 10-piperazino-10,11-dihydrodibenzo[b,f]thiepin series; 6-fluoro derivatives of perathiepin, **octoclothebin**, doclothebin and some related compounds

AUTHOR(S): Cervena, Irena; Metysova, Jirina; Bartl, Vaclav; Protiva, Miroslav

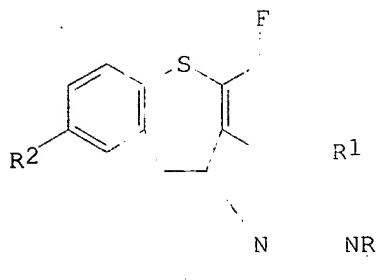
CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, 130 00/3, Czech.
SOURCE: Collection of Czechoslovak Chemical Communications (1979), 44(7), 2139-55

CODEN: CCCCAK; ISSN: 0366-547X

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB 6-Fluoro-10-piperazino-10,11-dihydrodibenzo[b,f]thiepins I (R = Me, CH₂CH₂OH, R₁ = H, R₂ = H, Cl; R = Me, R₁ = Cl, R₂ = H) were prepd. via 2-(2-fluorophenylthio)phenylacetic acids, 6-fluorodibenzo[b,f]thiepin-10(11H)-ones, the corresponding 10-hydroxy and 10-chloro compds. as intermediates. Fluorination in position 6 did not greatly influence the pharmacol. profile of the compds., indicating that hydroxylation in

position 6 is only a minor metabolic pathway. I (R = Me, R1 = Cl, R2 = H) is a potent central depressant and neuroleptic agent with some protraction of the sedative effects. Many of the compds. also had bactericidal, fungicidal, and tuberculostatic activity.

L19 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1979:87399 HCAPLUS

DOCUMENT NUMBER: 90:87399

TITLE: Neurotropic and psychotropic agents. Part CXXVI.
8-Chloro-3-hydroxy-10-piperazino-10,11-dihydrodibenzo[b,f]thiepins, their o-methyl derivatives and further potential metabolites of the neuroleptic agent **octoclothebin**

AUTHOR(S): Jilek, Jiri; Holubek, Jiri; Svatek, Emil; Bartosova, Marie; Metysova, Jirina; Pomykacek, Josef; Protiva, Miroslav

CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.

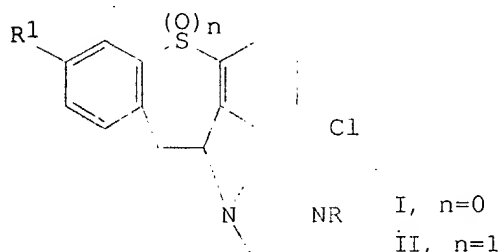
SOURCE: Collection of Czechoslovak Chemical Communications (1978), 43(11), 3092-102

CODEN: CCCCCA; ISSN: 0366-547X

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



AB Several potential metabolites of **octoclothebin** (I; R = Me, R1 = H) (III), having an oxygen function in position 3, were synthesized. 8,10-Dichloro-3-methoxy-10,11-dihydrodibenzo[b,f]thiepin was transformed via I (R = ethoxycarbonylpiperazino, R1 = OMe) to I (R = H, R1 = OMe) (IV) which was demethylated to give I (R = H, R1 = OH) (V). Methanesulfonates of I (R = R1 = H; R = Me, R1 = OH; R = Me, R1 = OMe) and IV were oxidized with H2O2 in H2O solns. to the sulfoxides II [R = R1 = H; R = Me, R1 = OH; R = Me, R1 = OMe (VI); R = H, R1 = OMe (VII)]. Sulfoxides VI and VII are characterized by a rather high toxicity on i.v. administration. In comparison with III, all of the new compds. are considerably weaker in tests for central depressant and cataleptic activity; the adrenolytic activity is mostly preserved. V was the relatively most active compd. from the point of view of central effects. Some I and II had antimicrobial activity.

IT 56096-71-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and oxidn. of)

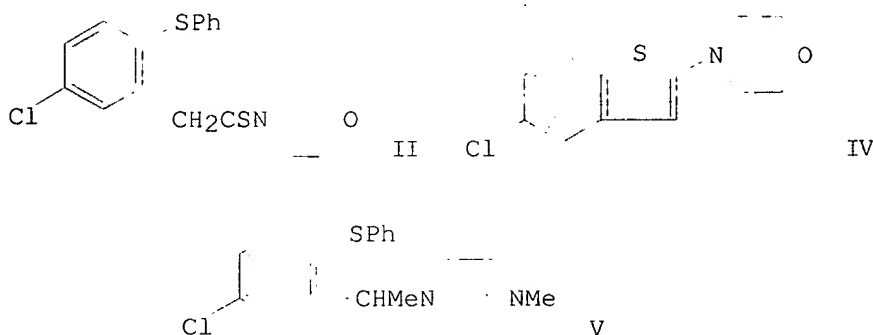
IT 13448-22-1DP, deriv. 68292-85-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L19 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1978:546870 HCAPLUS

DOCUMENT NUMBER: 89:146870
 TITLE: Neurotropic and psychotropic agents. CXX.
 [5-Chloro-2-(phenylthio)phenyl] acetic acid, some
 derivatives and products of further transformations
 AUTHOR(S): Rajsner, Miroslav; Miksik, Frantisek; Protiva,
 Miroslav
 CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications
 (1978), 43(5), 1276-821
 CODEN: CCCCAK; ISSN: 0366-547X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

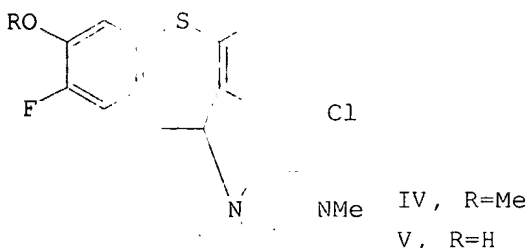
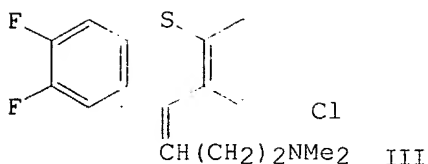


AB Methods of acylation of 1,4-C₆H₄Cl₂ with AcCl and Ac₂O were developed, which made 2,5-Cl₂C₆H₃COMe readily accessible. Its reaction with PhSH in the presence of K₂CO₃ and Cu gave 4,2-Cl(PhS)C₆H₃R I (R = Ac), which by Willgerodt reaction gave the thiomorpholide II. Alk. hydrolysis gave the title acid (I, R = CH₂CO₂H) (III). The morpholide of III underwent cyclization by heating with polyphosphoric acid to give 2-chlorodibenzo[b,f]thiepin-10(11H)-one. II was cleaved under similar conditions to PhSH and 5-chloro-2-morpholinobenzo[b]thiophene (IV). IV was hydrolyzed with acid to 5-chlorobenzo[b]thiophen-2(3H)-one. Redn. of I (R = Ac) gave the secondary alc. which was transformed via the chloride into the piperazine IV, a new open model of the neuroleptic **octoclothePIN**. IV has not the character of a neuroleptic; it has properties of a mild stimulant and antispasmodic (LD₅₀ and ED given). The min. inhibitory concn. of V against *Streptococcus faecalis* was 50 .mu.g/mL.

L19 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1977:601469 HCAPLUS
 DOCUMENT NUMBER: 87:201469
 TITLE: Neurotropic and psychotropic agents. CX. Fluorinated
 tricyclic neuroleptics: 6,7-difluoro derivative of
 chlorprothixene and the 2-fluoro-3-hydroxy derivative
 of **octoclothePIN**
 AUTHOR(S): Cervena, I.; Sindelar, K.; Kopicova, Z.; Holubek, J.;
 Svatek, E.; Metysova, J.; Hrubantova, M.; Protiva, M.
 CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications
 (1977), 42(6), 2001-17
 CODEN: CCCCAK; ISSN: 0010-0765
 DOCUMENT TYPE: Journal
 LANGUAGE: English

GI



AB 2,4,5-BrF₂C₆H₂NO₂ was transformed via 2,4,5-BrF₂C₆H₂CN (I) to 2,4,5-BrF₂C₆H₂CO₂H (II). I and II react with 4-ClC₆H₄SH in HCONMe₂ with substitution of the F atom in position 4 to give 2-bromo-4-(4-chlorophenylthio)-5-fluorobenzonitrile, 2-bromo-4-(4-chlorophenylthio)-5-fluorobenzoic acid and 2,4-bis(4-chlorophenylthio)-5-fluorobenzoic acid. In the reaction of II with 4-ClC₆H₄SH in the presence of K₂CO₃ and Cu, the Br atom underwent substitution and gave 2-(4-chlorophenylthio)-4,5-difluorobenzoic acid, which was converted via 7-chloro-2,3-difluorothioxanthone to the title compd. III. I treated with MeONa gave 2,5,4-BrF(MeO)C₆H₂CN, which was transformed in 6 steps to 2-(4-chlorophenylthio)-5-fluoro-4-methoxyphenylacetic acid. Cyclization with polyphosphoric acid gave 8-chloro-2-fluoro-3-methoxydibenzo[b,f]thiepin-10(11H)-one, which was converted via the 10-hydroxy and 10-chloro compds. into IV. Demethylation with BBr₃ gave the title compd. V. III, being probably an analog of the inactive trans-chlorprothixene, does not show properties of a neuroleptic agent. V is a potent tranquilizer with mild cataleptic activity (LD and ED in mice and rats given). At 25 .mu.g/mL III inhibited Staphylococcus pyrogenes aureus.

L19 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1977:552126 HCAPLUS

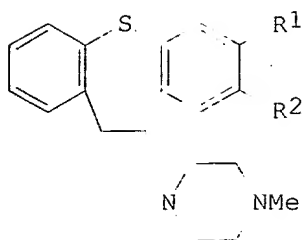
DOCUMENT NUMBER: 87:152126

TITLE: Neurotropic and psychotropic agents. CVIII. New potential neuroleptics of the perathiepin and octoclothebin series: 8-chloro-7-methoxy-, 8-chloro-7-trifluoromethyl- and 7-fluoro-8-methyl-10-(4-methylpiperazino)-10,11-dihydrodibenzo[b,f]thiepin
 AUTHOR(S): Cervena, I.; Sindelar, K.; Metysova, J.; Svatek, E.; Ryska, M.; Hrubantova, M.; Protiva, M.
 CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications (1977), 42(5), 1705-22
 CODEN: CCCCAK; ISSN: 0366-547X

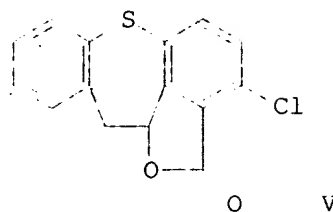
DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I, R¹=OMe, R²=Cl
 II, R¹=CF₃, R²=Cl
 III, R¹=F, R²=Me



AB 3,4-(MeO)ClC₆H₃SH, 3,4-(F₃C)ClC₆H₃SH, and 3,4-FMeC₆H₃SH were converted to the corresponding 2-(3,4-disubstituted phenylthio)phenylacetic acids which were cyclized with polyphosphoric acid to yield 7,8-disubstituted dibenzo[b,f]thiepin-10(11H)-ones. The ketones were transformed via secondary alcs. and 10-chloro derivs. to the title compds. I-III. 8-Chloro-7-methoxy- and 8-chloro-7-trifluoromethyldibenzo[b,f]thiepin-10(11H)-one (IV) were treated with 1-methylpiperazine and TiCl₄ in boiling C₆H₆ to give 8-chloro-7-methoxy- and 8-chloro-7-trifluoromethyl-10-(4-methylpiperazino)dibenzo[b,f]thiepin. The formation of IV was accompanied by side reactions leading to 8-chlorodibenzo[b,f]thiepin-10(11H)-one-7-carboxylic acid and the enol-lactone V. V was hydrolyzed with NaOH to 8-chlorodibenzo[b,f]thiepin-10(11H)-one-9-carboxylic acid. III showed central depressant and cataleptic effect in animals (LD₅₀ and ED₅₀ given). The min. inhibitory concn. of I against *Streptococcus faecalis* was 100 .mu.g/mL.

L19 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1976:592804 HCAPLUS

DOCUMENT NUMBER: 85:192804

TITLE: Neurotropic and psychotropic agents. XCVIII.

Neuroleptics of the 10-piperazino-10,11-dihydrodibenzo[b,f]thiepin series and related substances: piperazine-alkylated homologs of **octoclothiepin** and **methiothiepin**; 5,5-dimethyl-10,11-dihydro-5H-dibenzo[b,f]silepin analog of perathiepin

AUTHOR(S): Sindelar, K.; Jilek, J. O.; Bartl, V.; Metysova, J.; Kakac, B.; Holubek, J.; Svatek, E.; Pomykacek, J.; Protiva, M.

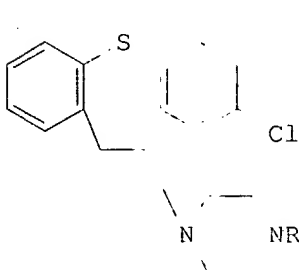
CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications (1976), 41(3), 910-22

CODEN: CCCCCK; ISSN: 0010-0765

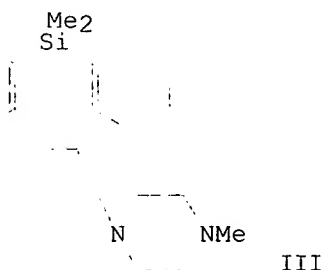
DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I



III

AB Acylation of I (R = H) and subsequent redn. gave the N-Et homolog of **octoclotheptin** (I, R = Et). The N-isopropyl analog (I, R = CHMe₂) was obtained from I (R = H) by alkylation with 4-MeC₆H₄SO₃CHMe₂. Substitution reaction of 8,10-dichloro-10,11-dihydrodibenzo[b,f]thiepin (II) with 1-(tert-butyl)piperazine gave I (R = CMe₃). Similar reactions of II and its 8-methylthio analog with 2-methylpiperazine and trans-2,5-dimethylpiperazine gave the piperazine-C-alkylated products; the secondary amines were converted via the N-formyl derivs. to the C-Me homologs of **octoclotheptin** and **methiotheptin**. Starting from 5,5-dimethyl-10,11-dihydro-5H-dibenzo[b,f]silepin, the dimethylsilepin analog of perathiepin (III) was prepd. Only the N-substituted homologs of **octoclotheptin** display a high degree of neuroleptic activity. All are more potent than **octoclotheptin** in the catalepsy test in rats (LD₅₀ and ED₅₀ given).

L19 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1976:592527 HCAPLUS

DOCUMENT NUMBER: 85:192527

TITLE: Neurotropic and psychotropic agents. C. Potential metabolites of neuroleptics of the 10-piperazino-10,11-dihydrodibenzo[b,f]thiepin series: 2,3-dihydroxy derivatives of perathiepin and **octoclotheptin** and some related compounds

AUTHOR(S): Sindelar, K.; Kakac, B.; Holubek, J.; Svatek, E.; Ryska, M.; Metysova, J.; Protiva, M.

CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.

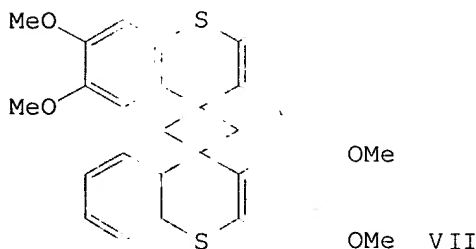
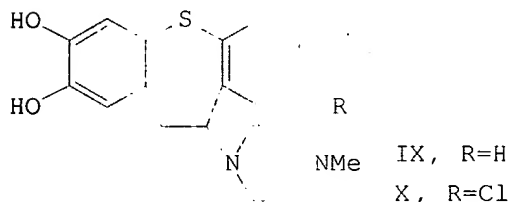
SOURCE: Collection of Czechoslovak Chemical Communications (1976), 41(5), 1396-415

CODEN: CCCCAK; ISSN: 0010-0765

DOCUMENT TYPE: Journal

LANGUAGE: English

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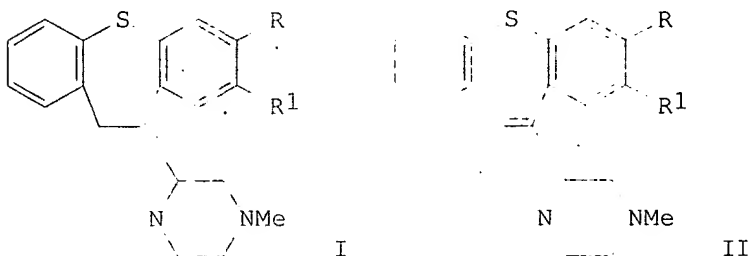


AB Reactions of 2-iodo-4,5-dimethoxyphenylacetic acid with PhSH and 4-ClC₆H₄SH yielded 2-(phenylthio)-4,5-dimethoxyphenylacetic acid and its 4-chlorophenylthio analog. Cyclization with polyphosphoric acid or polyphosphoric ester gave 2,3-dimethoxydibenzo[b,f]thiepin-10(11H)-one (I) and its 8-chloro deriv. Redn. led to 2,3-dimethoxy-10,11-dihydrodibenzo[b,f]thiepin-10-ol (II) and its 8-chloro deriv., which were converted at 0.degree. to 10-chloro-2,3-dimethoxy-10,11-

dihydrodibenzo[b,f]thiepin (III) and its 8-chloro deriv. (IV). Similarly, but at room temp., II formed a mixt. from which 9-chloromethyl-2,3-dimethoxythioxanthene (V), the rearranged product, was isolated. Treatment of V with 1-methylpiperazine (VI) gave a dimer VII with the dispirocyclobutane structure. Substitution reactions of III and IV with VI resulted in 2,3-dimethoxy derivs. of perathiepin and **octoclothepin** (VIII), which were demethylated with BBr₃ to IX and X, the potential metabolites of perathiepin and VIII. I was converted to N-[2,3-dimethoxy-10,11-dihydrodibenzo[b,f]thiepin-10-yl]formamide, which was further transformed to the 10-amino, 10-methylamino, and 10-dimethylamino compds. Demethylation led to the corresponding cyclic analogs of dopamine. VIII 2,3-dimethoxy deriv. was converted by selective oxidn. reactions to the sulfoxide and the N-oxide. The piperazines IX and X and their O-methyl derivs. are of low toxicity, possess a weak central depressant activity and are almost devoid of cataleptic activity (LD50 and ED50 given).

L19 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1976:577235 HCAPLUS
 DOCUMENT NUMBER: 85:177235
 TITLE: Neurotropic and psychotropic agents. XCVI. Potent neuroleptics with prolonged activity and diminished toxicity: 7,8-dihalo-10-piperazinodibenzo[b,f]thiepin
 AUTHOR(S): Cervena, I.; Metysova, J.; Svatek, E.; Kakac, B.; Holubek, J.; Hrubantova, M.; Protiva, M.
 CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications (1976), 41(3), 881-905
 CODEN: CCCCAK; ISSN: 0010-0765
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



AB 7,8-Dihalodibenzo[b,f]thiepin-10(11H)-ones were synthesized from 3,4-dichloro-, 4-chloro-3-fluoro-, 3-chloro-4-fluoro-, and 3,4-difluorothiophenol via the corresponding 2-(3,4-dihalophenylthio)benzoic acids, -benzyl alcs., -benzyl chlorides, -phenylacetonitriles, and -phenylacetic acids. The ketones were converted via the corresponding alcs. and chlorides to the 7,8-dihalo derivs. of perathiepin I (R = R₁ = Cl, F; R = F, R₁ = Cl; R = Cl, R₁ = F) or directly to enamines II. All the 7,8-dihalo derivs. have low toxicity on oral administration. Enamines II are highly cataleptic. 7-Fluoro deriv. of **octoclothepin** (I, R = F, R₁ = Cl) more effective in the antiapomorphine test on rats than **octoclothepin**, in other tests it is somewhat weaker but it is 10 times less toxic (LD50 and ED50 given).

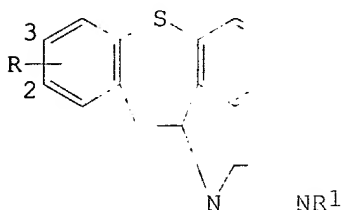
L19 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1976:150583 HCAPLUS
 DOCUMENT NUMBER: 84:150583

TITLE: Neurotropic and psychotropic agents. XCI.
Neuroleptics with protracted action. The 3-fluoro derivatives of **methiothepin** and oxyprothepin and their 2-fluoro analogs

AUTHOR(S): Kopicova, Z.; Metysova, J.; Protiva, M.
CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
SOURCE: Collection of Czechoslovak Chemical Communications (1975), 40(11), 3519-29
CODEN: CCCCAK; ISSN: 0010-0765

DOCUMENT TYPE: Journal
LANGUAGE: English
GI



AB 3-Fluoro- and 2-fluoro-8-(methylthio)dibenzo[b,f]thiepin-10(11H)-one were synthesized in six steps from 2,4-BrFC₆H₃CO₂H and 2,5-BrFC₆H₃CO₂H. In two further steps they gave the 10-chloro-10,11-dihydro analogs which underwent substitution reactions with 1-methylpiperazine and 1-(3-hydroxypropyl)piperazine yielding the title compds. I [R = 3-F, R₁ = Me; R = 3-F, R₁ = (CH₂)₃OH; R = 2-F, R₁ = Me; R = 2-F, R₁ = (CH₂)₃OH]. The 2-fluoro derivs. do not differ much pharmacol. from the nonfluorinated prototypes, but the 3-fluoro compds. are more toxic and more effective in causing ataxia in mice and catalepsy in rats (LD₅₀ and ED₅₀ p.o. given) than the parent agents **methiothepin** and oxyprothepin and their effects are distinctly protracted. Min. inhibitory concns. of I against *Escherichia coli*, *Candida albicans*, etc. were detd.

L19 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1975:428183 HCAPLUS
DOCUMENT NUMBER: 83:28183
TITLE: Neurotropic and psychotropic agents. LXXVII.
Potential metabolites of clorotepin. The 2- and 3-hydroxy derivatives of 8-chloro-10-(4-methylpiperazino)-10,11-dihydrodibenzo[b,f]thiepin and their methyl ethers

AUTHOR(S): Sindelar, K.; Jilek, J. O.; Metysova, J.; Pomykacek, J.; Protiva, M.
CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
SOURCE: Collection of Czechoslovak Chemical Communications (1974), 39(12), 3548-59
CODEN: CCCCAK; ISSN: 0010-0765

DOCUMENT TYPE: Journal
LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB 8-Chloro-2-methoxydibenzo[b,f]thiepin-10(11H)-one (I, R = 2-OMe) and its 3-methoxy isomer (I, R = 3-OMe) were synthesized from 2-bromo-5-methoxybenzoic acid and from 2-iodo-4-methoxybenzoic acid in 6 steps. In 3 further steps, the ketones I were converted to the 2-methoxy (II, R = 2-OMe) (III) and 3-methoxy (II, R = 3-OMe) derivs. of clorotepin [II, R =

H (V)]. Demethylation with BBr₃ and subsequent hydrolysis gave the phenolic bases II [R = 2-, 3-OH (VI)], the potential metabolites of the neuroleptic agent V. While the 2-substituted derivs. of II show no central neurotropic activity, the 3-substituted isomers are highly active, and the hydroxy compd. VI is more effective than V in the test of catalepsy in rats and in the test of muscular incoordination in mice, being much less toxic. Piperazinyldibenzothiepins were tested for bactericidal activity. E.g., III and IV exhibit min. inhibitory concns. of 25 and 50 .mu.g/ml, resp., against Streptococcus .beta.-haemolyticus and Staphylococcus pyogenes aureus.

IT 56096-69-6P 56096-71-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and neurotropic and bactericidal activities of)

L19 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1975:428182 HCAPLUS

DOCUMENT NUMBER: 83:28182

TITLE: Neurotropic and psychotropic agents. LXXVI.
8-Alkylthio-10-piperazinodibenzo[b,f]thiepins

AUTHOR(S): Jilek, J. O.; Metysova, J.; Pomykacek, J.; Protiva, M.

CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.

SOURCE: Collection of Czechoslovak Chemical Communications
(1974), 39(11), 3338-51

CODEN: CCCCAK; ISSN: 0010-0765

DOCUMENT TYPE: Journal

LANGUAGE: English

GI For diagram(s), see printed CA Issue.

AB The high degree of neuroleptic activity of **methiothepin** (I, R₁ = R₂ = Me) motivated the synthesis of homologs I [R₁ = Et, Pr, iso-Bu, (CH₂)₁₁Me; R₂ = Me, (CH₂)₃OH]. The syntheses started with 2-IC₆H₄CO₂H and 4-R₁SC₆H₄SH and proceeded via 8-alkylthiodibenzo[b,f]thiepin-10(11H)-ones in 9 steps to I. 8-(Isobutylthio)dibenzo[b,f]thiepin-10(11H)-one treated with 1-methylpiperazine and TiCl₄ in boiling C₆H₆ gave enamine II. I (R₁ = Et, R₂ = Me) has a high degree of neuroleptic activity; with increasing size of R₁, the activity drops rapidly. Some I, especially with R₁ = iso-Bu and R₂ = (CH₂)₃OH, have high antibacterial activity in vitro. I (R₁ = (CH₂)₁₁Me, R₂ = Me), prep'd. for this purpose, was inactive.

IT 20229-30-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and neuroleptic activity of)

IT 19728-88-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

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E4 THROUGH E9 ASSIGNED

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DICTIONARY FILE UPDATES: 2 JUL 2003 HIGHEST RN 541497-70-5

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Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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(20229-30-5/RN)

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(13448-22-1/RN)

1 68292-85-3/BI
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1 19728-88-2/BI
(19728-88-2/RN)

1 56096-69-6/BI
(56096-69-6/RN)

L20 6 (20229-30-5/BI OR 56096-71-0/BI OR 13448-22-1/BI OR 68292-85-3/BI OR 19728-88-2/BI OR 56096-69-6/BI)

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L20 ANSWER 1 OF 6 REGISTRY COPYRIGHT 2003 ACS

RN 68292-85-3 REGISTRY

CN Dibenzo[b,f]thiepin-3-ol, 8-chloro-10,11-dihydro-10-(4-methyl-1-piperazinyl)-, 5-oxide (9CI) (CA INDEX NAME)

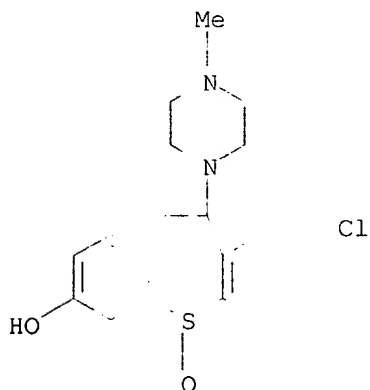
OTHER NAMES:

CN 3-Hydroxyoctoclothebin S-oxide

MF C19 H21 Cl N2 O2 S

CI COM

LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
(*File contains numerically searchable property data)



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 3 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 96:199732

REFERENCE 2: 90:87399

REFERENCE 3: 90:33708

L20 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2003 ACS

RN 56096-71-0 REGISTRY

CN Dibenzo[b,f]thiepin-3-ol, 8-chloro-10,11-dihydro-10-(4-methyl-1-piperazinyl)- (9CI) (CA INDEX NAME)

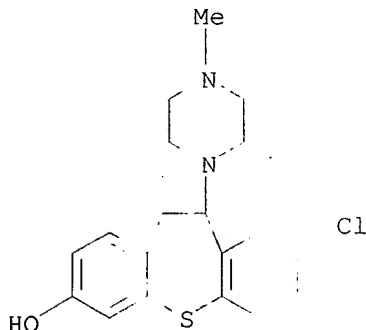
OTHER NAMES:

CN 3-Hydroxyoctoclothebin

MF C19 H21 Cl N2 O S

CI COM

LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, TOXCENTER
 (*File contains numerically searchable property data)



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REFERENCE 3: 93:125395

REFERENCE 4: 92:174173

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REFERENCE 7: 86:155697

REFERENCE 8: 83:28183

L20 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2003 ACS

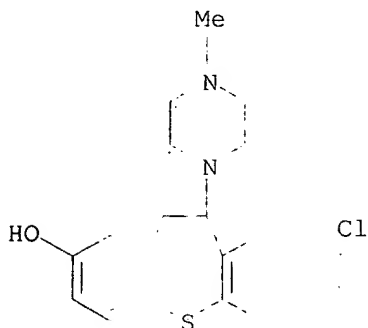
RN 56096-69-6 REGISTRY

CN Dibenzo[b,f]thiepin-2-ol, 8-chloro-10,11-dihydro-10-(4-methyl-1-piperazinyl)- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2-Hydroxyoctoclothebin

MF C19 H21 Cl N2 O S
 CI COM
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CHEMCATS, TOXCENTER
 (*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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 4 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 93:125395

REFERENCE 2: 90:33708

REFERENCE 3: 86:155697

REFERENCE 4: 83:28183

L20 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2003 ACS

RN 20229-30-5 REGISTRY

CN Piperazine, 1-[10,11-dihydro-8-(methylthio)dibenzo[b,f]thiepin-10-yl]-4-methyl- (8CI, 9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Dibenzo[b,f]thiepin, piperazine deriv.

OTHER NAMES:

CN Methiotepin

CN Methiothepin

CN Methiothepine

CN Metitepine

CN Ro 8-6837

DR 101395-30-6

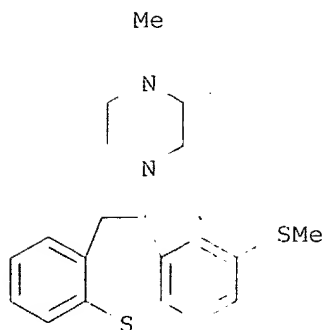
MF C20 H24 N2 S2

CI COM

LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CHEMCATS, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK*, PROMT, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPATFULL, VETU

(*File contains numerically searchable property data)

Other Sources: WHO



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 320 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 138:150503
 REFERENCE 2: 138:130917
 REFERENCE 3: 138:50031
 REFERENCE 4: 138:11684
 REFERENCE 5: 138:244
 REFERENCE 6: 137:362429
 REFERENCE 7: 137:273197
 REFERENCE 8: 137:106690
 REFERENCE 9: 137:103378
 REFERENCE 10: 137:88475

L20 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2003 ACS

RN 19728-88-2 REGISTRY

CN Piperazine, 1-[10,11-dihydro-8-(methylthio)dibenzo[b,f]thiepin-10-yl]-4-methyl-, (2Z)-2-butenedioate (1:1) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Dibenzo[b,f]thiepin, piperazine deriv.

CN Piperazine, 1-[10,11-dihydro-8-(methylthio)dibenzo[b,f]thiepin-10-yl]-4-methyl-, (Z)-2-butenedioate (1:1)

CN Piperazine, 1-[10,11-dihydro-8-(methylthio)dibenzo[b,f]thiepin-10-yl]-4-methyl-, maleate (1:1) (8CI)

OTHER NAMES:

CN Methiothiepin maleate

FS STEREOSEARCH

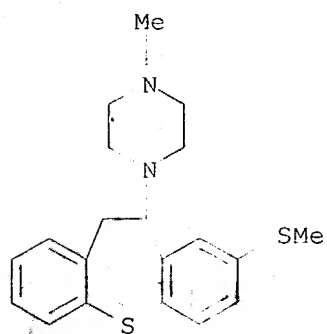
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LC STN Files: BEILSTEIN*, BIOSIS, CA, CAPLUS, CHEMCATS, CSCHEM, MRCK*, RTECS*, TOXCENTER, USPATFULL
 (*File contains numerically searchable property data)

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CRN 20229-30-5

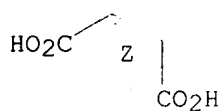
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CM 2

CRN 110-16-7
CMF C4 H4 O4

Double bond geometry as shown.



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53 REFERENCES IN FILE CAPLUS (1957 TO DATE)

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REFERENCE 3: 124:106236
REFERENCE 4: 122:303502
REFERENCE 5: 120:289903
REFERENCE 6: 117:41075
REFERENCE 7: 115:41733
REFERENCE 8: 114:17433
REFERENCE 9: 113:109129
REFERENCE 10: 113:71153

L20: ANSWER 6 OF 5 REGISTRY COPYRIGHT 2003 ACS

RN 13448-22-1 REGISTRY

CN Piperazine, 1-(8-chloro-10,11-dihydrodibenzo[b,f]thiepin-10-yl)-4-methyl-
(8CI, 9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

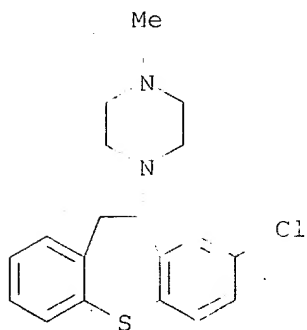
CN Dibenzo[b,f]thiepin, piperazine deriv.

OTHER NAMES:

CN (.+-.)-Clothepin

CN (.+-.)-Octoclothepin

CN Chlorothepin
 CN Clorotepine
 CN Clotepin
 CN Clothepin
 CN Octoclothepin
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 DR 41931-02-6
 MF C19 H21 Cl N2 S
 CI COM
 LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,
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 Other Sources: WHO



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 REFERENCE 5: 134:126129
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 REFERENCE 7: 128:110756
 REFERENCE 8: 125:50947
 REFERENCE 9: 120:289951
 REFERENCE 10: 117:184691

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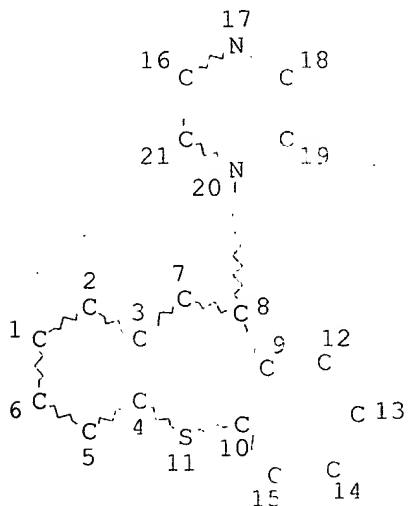
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 FILE LAST UPDATED: 2 Jul 2003 (20030702/ED)

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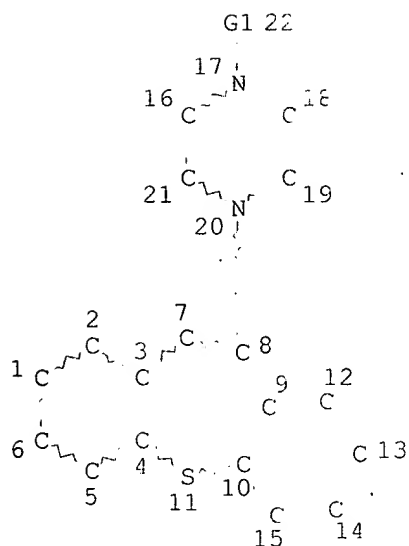
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 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE
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 L6 STR



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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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STEREO ATTRIBUTES: NONE

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 L9 13 SEA FILE=REGISTRY ABB=ON PLU=ON OCTOCLOTH?
 L10 16 SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND (L8 OR L9)
 L11 SEL PLU=ON L10 1- CHEM : 55 TERMS
 L12 1155 SEA FILE=HCAPLUS ABB=ON PLU=ON L11
 L13 1155 SEA FILE=HCAPLUS ABB=ON PLU=ON L12 OR METHIOTHEP? OR
 OCTOCLOTHEPIN?
 L14 1243 SEA FILE=REGISTRY ABB=ON PLU=ON CMV? OR CYTOMEG?
 L15 12974 SEA FILE=HCAPLUS ABB=ON PLU=ON L14 OR CMV OR CYTOMEG?
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L31 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1982:406319 HCAPLUS
 DOCUMENT NUMBER: 97:6319

TITLE: 8-Chloro-10-piperazino-10,11-dihydrodibenzo[b,f]thiepins containing an oxygen functional group in position 6

INVENTOR(S): Protiva, Miroslav; Jilek, Jiri; Pomykacek, Josef; Metysova, Jirina; Bartosova, Marie

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 8 pp.
CODEN: CZXXA9

DOCUMENT TYPE: Patent

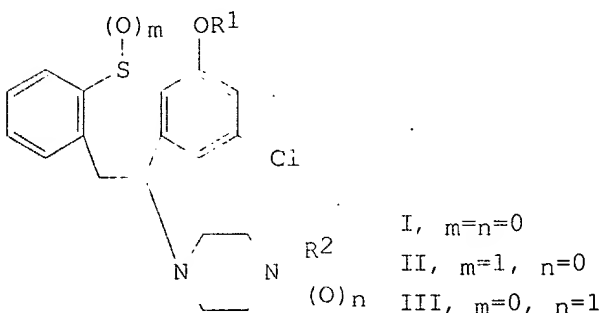
LANGUAGE: Czech

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 193923	B	19791130	CS 1977-6261	19770927
PRIORITY APPLN. INFO.:			CS 1977-6261	19770927
OTHER SOURCE(S):		CASREACT 97:6319		

GI



AB The title compds. I, II, and III ($R_1 = H, Me$; $R_2 = H, Me, CO_2Et$) were prepd. Thus, coupling diazotized 2,4-(MeO)ClC₆H₃NH₂ with EtOCS₂K gave 56% 2,4-(MeO)ClC₆H₃SH which was boiled with o-IC₆H₄CO₂H and Cu to give 87% 2-[2,4-(MeO)ClC₆H₃S]C₆H₄CO₂H, which was reduced with (MeOCH₂CH₂O)₂AlNa to give 75% 2-[2,4-(MeO)ClC₆H₃S]C₆H₄CH₂OH (IV). Treating IV with SOCl₂ gave 90% chloride which was treated with NaCN to give 90% nitrile, whose sapon. gave 75% 2-[2,4-(MeO)ClC₆H₃S]C₆H₄CH₂OH (V). Refluxing V with polyphosphoric acid in PhMe gave 93% 8-chloro-6-methoxydibenzo[b,f]thiepin-10(11H)-one which was reduced with NaBH₄ to give 80% 8-chloro-6-methoxy-10,11-dihydrodibenzo[b,f]thiepin-10-ol, which was converted to 96% 8,10-dichloro-6-methoxy-10,11-dihydrodibenzo[b,f]thiepin (VI). Refluxing VI with 1-methylpiperazine in CHCl₃ gave 67% I ($R_1 = R_2 = Me$) (VII). Demethylating VII with BBr₃ in CHCl₃ gave 79% I ($R_1 = H, R_2 = Me$), which was converted to methanesulfonate and kept in aq. soln. with H₂O₂ 24 h to give 48% II ($R_1 = H, R_2 = Me$). Refluxing VII with H₂O₂ in alc. soln. 3 h gave 95% III ($R_1 = H, R_2 = Me$). Boiling VI with 1-(ethoxycarbonyl)piperazine and alk. hydrolysis of the resulting I ($R_1 = Me, R_2 = CO_2Et$) (56%) gave 80% I ($R_1 = Me, R_2 = H$), which was demethylated as above to yield 82% I ($R_1 = R_2 = H$). I, II, and III had tranquilizing, neuroleptic, spasmolytic, antihistamine, antiarrhythmic, hypotensive, adrenolytic, inotropic, analgesic, antiamphetamine, and potentiation of thiopental sleep activities. I-II at 12.5-100 mg/mL inhibited the growth of bacteria, yeasts, and fungi.

L31 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1975:428181 HCAPLUS
 DOCUMENT NUMBER: 83:28181
 TITLE: Neurotropic and psychotropic agents. LXXV. Cyclic acetals of the 10-piperazino-10,11-dihydrodibenzo[b,f]thiepin series
 AUTHOR(S): Jilek, J. O.; Metysova, J.; Protiva, M.
 CORPORATE SOURCE: Res. Inst. Pharm. Biochem., Prague, Czech.
 SOURCE: Collection of Czechoslovak Chemical Communications (1974), 39(11), 3153-6
 CODEN: CCCCAK; ISSN: 0010-0765
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI For diagram(s), see printed CA Issue.
 AB Alkylation of 8-chloro- and 8-methylthio-10-piperazino-10,11-dihydrodibenzo[b,f]thiepin with 2-(2-chloroethyl)-1,3-dioxolane and with 2-(2-chloroethyl)-1,3-dioxane gave the title compds. I (R = Cl, SMe; n = 2, 3) being effective neuroleptics of low oral toxicity. I exhibited ED50 0.16-3.7 mg/kg in mice in the rotating rod test.
 IT 23048-89-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction with chloroethyldioxolanes and -dioxanes)

L31 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1974:59958 HCAPLUS
 DOCUMENT NUMBER: 80:59958
 TITLE: Antimicrobial guanidines derived from 10-piperazinodibenzo(b,f)thiepins
 INVENTOR(S): Protiva, Miroslav; Jilek, Jiri; Simek, Antonin
 SOURCE: Czech., 2 pp.
 CODEN: CZXXA9
 DOCUMENT TYPE: Patent
 LANGUAGE: Czech
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 148855	B	19730524	CS 1969-8116	19691210
PRIORITY APPLN. INFO.:			CS 1969-8116	19691210

GI For diagram(s), see printed CA Issue.
 AB The benzothiepins I (R = H, Cl; Z = -, NH, (CH₂)₃NH), having antimicrobial activity, were prepd. from the corresponding amino compds. by treatment with hemisulfate of MeSC(:NH)NH₂ (II). E.g. 8-chloro-10-piperazin-1-yl-10,11-dihydrodibenzo[b,f]thiepin heated with II in aq. EtOH gave 8-chloro-10-(4-guanyl-1-piperazinyl)-10,11-dihydrodibenzo[b,f]thiepin hemisulfate. Similarly, 10-(4-amino-1-piperazinyl)-10,11-dihydrodibenzo[b,f]thiepin gave hemisulfate of 10-(4-guanidino-1-piperazinyl)-10,11-dihydrodibenzo[b,f]thiepin, and 8-chloro-10-[4-(3-aminopropyl)-1-piperazinyl]-10,11-dihydrodibenzo[b,f]thiepin gave hemisulfate of 8-chloro-10-[4-(3-guanidinopropyl) - 1 - piperazinyl] - 10,11 - dihydrodibenzo[b,f]thiepin.
 IT 23048-89-7
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of, with methylisothiurea)

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 DICTIONARY FILE UPDATES: 2 JUL 2003 HIGHEST RN 541497-70-5

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<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

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L32 1 23048-89-7/BI
 (23048-89-7/RN)

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L32 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS

RN 23048-89-7 REGISTRY

CN Piperazine, 1-(8-chloro-10,11-dihydrodibenzo[b,f]thiepin-10-yl)- (8CI, 9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Dibenzo[b,f]thiepin, piperazine deriv.

OTHER NAMES:

CN 8-Chloro-10,11-dihydro-10-piperazinodibenzo[b,f]thiepin

CN 8-Chloro-10-piperazino-10,11-dihydrodibenzo[b,f]thiepin

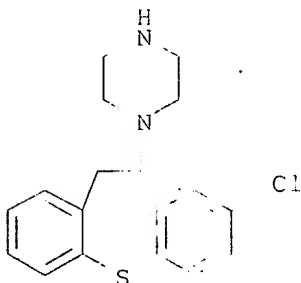
CN Dibenzo[b,f]thiepin, 8-chloro-10,11-dihydro-10-(1-piperazinyl)-

CN Noroctoclotheptine

MF C18 H19 Cl N2 S

CI COM

LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, TOXCENTER
 (*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

32 REFERENCES IN FILE CA (1957 TO DATE)

32 REFERENCES IN FILE CAPLUS (1957 TO DATE)

REFERENCE 1: 115:92299
REFERENCE 2: 111:97179
REFERENCE 3: 106:5078
REFERENCE 4: 103:71337
REFERENCE 5: 99:105214
REFERENCE 6: 94:53703
REFERENCE 7: 94:192174
REFERENCE 8: 93:197443
REFERENCE 9: 93:168302
REFERENCE 10: 92:174173